Red Hat OpenShift Data Foundation

Now available with Red Hat OpenShift Data Foundation Platform Plus

Highlights:

Deploy a complete Kubernetes platform with management, security, registry, and cluster data management.

Provide Kubernetes data services at no additional cost, including file, block, and object storage modalities, snapshots, cluster-wide encryption, and Multicloud Object Gateway.

Upgrade to OpenShift Data Foundation Advanced to add external-mode storage, mixed usage patterns, key management service (KMS)-enabled volume-level encryption, and disaster recovery.

Support up to 256TB of raw storage and upgrade to petabyte scale with Openshift Data Foundation capacity expansion packs.

Focus on your business and enjoy a consistent user and management experience across the hybrid cloud with OpenShift Platform Plus.

Overview

Digital transformation is accelerating rapidly as organizations embrace the advantages of containers and Kubernetes orchestration through Red Hat® OpenShift®. With this growth, diverse organizations now want to provide OpenShift operational benefits everywhere—from edge to core—extending beyond the boundaries of a single cluster, datacenter, or cloud platform. At the same time, many are deploying enterprise workloads on Red Hat OpenShift that require persistent storage to function.

To address these challenges, Red Hat now includes Red Hat OpenShift Data Foundation Essentials with Red Hat OpenShift Platform Plus. With this addition, OpenShift Platform Plus provides an end-to-end solution with all the tools that organizations need. In addition to Red Hat OpenShift Container Platform, OpenShift Platform Plus also includes Red Hat OpenShift Advanced Cluster Management for Kubernetes, Red Hat OpenShift Advanced Cluster Security for Kubernetes, Red Hat Quay container registry platform, and OpenShift Data Foundation for persistent data services.

OpenShift Platform Plus and OpenShift Data Foundation Essentials

Organizations rely on data-driven insights to remain competitive and reliable, with diverse workloads ranging from databases to analytics, data pipelines, artificial intelligence and machine learning (AI/ML), and more. OpenShift Platform Plus provides a complete platform with a consistent user experience, management, and data services across the hybrid cloud and edge infrastructure.

In early Kubernetes deployments, storage was often an afterthought, with many organizations just relying on their local storage or a cloud provider—an approach that offers limited scalability. OpenShift Data Foundation abstracts the details and inconsistencies of the storage infrastructure while delivering data services that organizations need. Organizations can upgrade to OpenShift Data Foundation Advanced to add more sophisticated data services functionality (Table 1).

Table 1. Red Hat OpenShift Data Foundation capabilities

OpenShift Data Foundation Essentials provides	OpenShift Data Foundation Advanced adds
• Kubernetes read write once (RWO) (block, file) • Kubernetes read write many RWX (shared file, shared block) • Object storage (s3-compatible) • Internal mode storage (on-cluster)	• External mode storage (shared cluster) • Mixed usage patterns (off-cluster workloads) • Volume-level encryption with bring-your-own-key (BYOK) support

OpenShift Data Foundation Essentials provides	OpenShift Data Foundation Advanced adds
• Volume snapshots	• Metro disaster recovery
• Cluster-wide encryption	• Regional disaster recovery
• Multicloud Object Gateway	

OpenShift Data Foundation Advanced

All OpenShift Platform Plus subscriptions can upgrade to OpenShift Data Foundation Advanced as their needs dictate. This addition adds sophisticated capabilities required by larger enterprise deployments and crucial applications, including:

External mode support. Openshift Data Foundation Advanced can be deployed external to the Red Hat OpenShift cluster. This functionality allows clustered storage to be managed separately, simultaneously delivering data storage to several Red Hat OpenShift clusters.

Mixed usage patterns. Because OpenShift Data Foundation uses a software-defined storage layer provided by Ceph technology, it can serve other workloads running off-cluster in addition to those running on Red Hat OpenShift.

Volume-level encryption. While OpenShift Data Foundation Essentials supports device-level encryption, OpenShift Data Foundation Advanced supports encryption at the persistent volume (PV) level. BYOK and key management systems (KMS) are also supported.

Data and cluster resiliency. OpenShift Data Foundation Advanced provides diverse disaster recovery capabilities[1], helping to meet recovery point objectives and recovery time objectives.

OpenShift Data Foundation expansion packs

Every OpenShift Data Foundation subscription supports up to 256TB in raw capacity out of the box. Additional OpenShift Data Foundation expansion packs are available to extend storage capacity as needed to petabytes and beyond.

[1]Metro and regional disaster recovery are available in Developer Preview as of this writing with Red Hat OpenShift 4.9.

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